

From these data it would seem that the apparent secondary revolution of B round the common centre of gravity of B and A is at the rate of about one half a degree per day, and the foreshortened daily departure of B from A in space, is about 1000 miles, and that so far, the revolution round each other, and the increase of distance asunder, are nearly uniform.

I am quite unable to give any theoretical explanation of the phenomenon.

Yours, truly,

S. C. WALKER.

To Prof. A. D. BACHE, LL.D.

Prof. A. D. Bache made some remarks on the progress of the coast survey, under his superintendence, and illustrated them by a number of diagrams.

On motion of Dr. Elwyn, the letter from the American Academy of Arts and Sciences was referred to a committee, consisting of Dr. Emerson, Mr. Charles M' Ewen, and Prof. Cresson.

*Stated Meeting, February 20.*

Present, seventeen members.

Dr. CHAPMAN, President, in the Chair.

A letter was announced and read:—

From the American Academy of Arts and Sciences, dated Boston, Feb. 8, 1846, inviting the coöperation of the American Philosophical Society, in a petition to Congress, to print an additional number of copies of the Reports of the U. S. Exploring Expedition.

The communication was referred to a Committee, consisting of Dr. Elwyn, Prof. Frazer, and Dr. Patterson.

The following donations were announced:—

FOR THE LIBRARY.

Proceedings of the Geological Society of London. With Plates in illustration of the Papers abstracted. Session 1844—45. Vol. IV. No. 104. Part 3. 8vo.—*From the Society.*

- Proceedings of the London Electrical Society. Sessions of 1842-3. Edited by the Secretary. London, July 1, 1842. 8vo.—*From the Society.*
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. II. No. 12. Nov. Dec. 1845. 8vo.—*From the Academy.*
- The Electrical Magazine. Conducted by Mr. Charles V. Walker. Vol. I. No. 2. October, 1843. 8vo.—*From the Editor.*
- Journal of the Franklin Institute of the State of Pennsylvania. Third Series. Vol. XI. January, 1846. No. 1. 8vo.—*From Dr. Patterson.*
- The African Repository and Colonial Journal. Vol. XXII. February, 1846. No. 2. 8vo.—*From the American Colonization Society.*
- The British Almanac of the Society for the Diffusion of Useful Knowledge. For the Year 1846. 12mo.—*From Petty Vaughan, Esq.*
- Notes on the Iroquois; or Contributions to the Statistics, Aboriginal History, Antiquities and General Ethnology of Western New York. By Henry D. Schoolcraft. New York, 1846. 8vo.—*From the Author.*
- A Brief Account of the Processes employed in the Assay of Gold and Silver Coins, at the Mint of the United States. 8vo.—*From Dr. Robert M. Patterson.*
- Act of January 18, 1837, relative to the Mint and Coinage of the United States. 8vo.—*From the same.*

The Committee appointed at the last meeting to report upon the communication from the Academy of Arts and Sciences, offered the following resolutions.

*Resolved,* That the American Philosophical Society adopt the recommendation of the American Academy of Arts and Sciences to unite with them in a memorial to the Government, asking an extension of meteorological observations to remote military posts, to some of the posts and lighthouses on our coasts, and to certain other points to be designated in the memorial.

*Resolved,* That the Franklin Institute of Pennsylvania be invited to join in said memorial, and in a circular to the Legislatures of the States, and to individuals.

Dr. Boyé exhibited to the Society a specimen of Brown Hematite Ore from Chester Ridge, three-fourths of a mile west of

Chester Furnace, Huntingdon County, Pa., containing a small quantity of *Oxide of Cobalt*,—the surface of the ore is in some places covered with a thin film of oxide of cobalt. It also contains a moderate proportion of manganese.

The ore was dissolved in chlorohydric acid, the solution neutralized by ammonia, and then the iron precipitated by boiling, after previous dilution with water. The oxide of cobalt which remained in the solution with the manganese, was discovered both by its reaction in the moist way, and by the blue bead it yielded with salt of phosphorus.

Dr. B. also stated that by a visit to Colemanville Iron Works, Lancaster County, Pa., he had found on the outer surface of the coal-pits for charring wood, a yellowish white deposition.

On examining this deposition it was found to consist of acetate of lime. By dissolving it in water and treating it with animal charcoal, the acetate of lime was obtained perfectly colourless. Dr. Boyé remarked, that the lime was probably derived from the soil, but as acetate of lime was not volatile, it must be carried up mechanically by the vapours of pyroligneous acid and other volatile substances, given off by the process of charring.

Mr. Haldeman called the attention of the Society to the apparent projection of a planet on the disk of the moon, while observing occultations. This appearance he ascribed to a state of tension of the retina, which preserved the impression of the object after the eye was removed from it. Further remarks were made on the subject by Prof. Frazer, Drs. Duglison, Patterson, Coates, Bache, and Mr. G. W. Smith.

Dr. Coates observed, that though he had not been able to verify all the laws of ocular spectra described by Charles Darwin, a circumstance which inclined him to the opinion that these phenomena were materially modified in different individuals, he had observed the sudden disappearance of spectra. Spectra did not decline indefinitely, or till the death of the individual experiencing them, by the law of an infinite series; they terminated abruptly. Our eyes were not constructed with mathematical exactness, nor capable of indefinite minuteness; resembling, in this respect, those of many insects in which a great number of facets replaced the surface of a sphere. Various irregular, nervous sounds, produced in the ear, also termi-

nated abruptly. There appeared to take place in the nervous expansions of the organs of sense, a process resembling that of *attention*, as exhibited in the operations of the brain; and this was frequently the cause why our perceptions were at one time so much keener than at others.

Dr. Patterson exhibited to the Society a second diamond from Hall County, Georgia, nearly three carats in weight, and considered to be of the first water. Mr. Peale stated that he had a specimen of granular quartz, supposed to be the gang of the diamond, that was decidedly flexible.

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*Stated Meeting, March 6.*

Present, sixteen members.

Dr. PATTERSON, Vice-President, in the Chair.

A letter was read from the New York Historical Society, dated New York, February 26, 1846, in relation to the printing, by Congress, of only one hundred copies of the Memoirs on Subjects of Science, prepared by gentlemen of the United States Exploring Expedition, and it was referred to the Committee appointed on the same subject at the last meeting.

The following donations were announced:—

FOR THE LIBRARY.

Journal of the Franklin Institute of the State of Pennsylvania. Third Series. Vol. XI. Feb. 1846. No. 2. 8vo.—*From Dr. Patterson.*

The Medical News and Library. Vol. IV. March, 1846. No. 39. 8vo.—*From Messrs. Lea & Blanchard.*

Annual Report of the Directors and Physicians of the Kentucky Lunatic Asylum to the Legislature. December Session, 1845. Frankfort, Ky. 1846. 8vo.—*From the Kentucky Historical Society.*

Report from the Secretary of the Treasury, communicating a Report of the Superintendent of the Coast Survey, showing the progress